

MOVEMENT BY COMMENSAL *HIPPONIX CONICUS* (Schumacher)
by THELMA HARTLEY*

(Plate 8)

On 10th March, 1958, three dozen *Haliotis ruber* Leach were collected at Flinders, Victoria, Australia. On the majority of these shells the common Victorian limpet,† *Hipponix* (= *Sabia*) *conicus* (Schumacher) was attached. It is not unusual to find this limpet attached to a rock, dead shell, or the back of a live shell. However, it is unusual to find evidence of migration by this limpet. Fifteen of the *H. ruber* with *H. conicus* on them showed that this limpet had definitely changed position. Four specimens are used to illustrate this.

Figure 1.—In this specimen the trail of the *Hipponix* is on the marginal side of the tremata, and the limpet lies at the margin of the *Haliotis*. As with the other specimens, the limpet has its anterior margin at the anterior margin of the *Haliotis*. On the *Hipponix* is a young specimen 3 mm. wide.

Figure 2.—The trail left by the *Hipponix* begins half-way between the apex and the tremata; it extends to the latest formed tremata, then follows the trematal line to the margin. At first the trail is only 2 mm. wide, and gradually widens until it is the width of the *Hipponix* shell (11 mm.). The trail is over 3 cm. long, and slightly recessed, the radial rugae and spiral striae being scarcely distinguishable thereon.

Figure 3.—The trail is smooth and gradually widens as in fig. 2. This trail is 8 cm. long, with an obscure beginning. The trail is of such age that there has been time for epiphytic plants and worm tubes to grow on it. The course of the trail is along the apical side of the tremata, i.e., it is spiral like the shell itself. The *Hipponix* shell is now at the margin, and measures 1.8 cm. in width.

Figure 4.—This is a large *Haliotis* (maximum diameter 10.8 cm.) with a trail having a maximum width of 2.3 cm.; it follows the apical side of the trematal line, and the older half is buried under epiphytes. The *Hipponix* has its anterior margin on the anterior margin of the *Haliotis*. On the anterior margin of the *Hipponix* is another *Hipponix* shell nearly 12 mm. wide, and with a clear trail 1 mm. long, the rest being less distinct. On this shell is a still smaller one only 4 mm. wide and situated at the anterior margin.

Comment: The trails are smooth because the *Hipponix* shells have interfered with the deposition by the periostracum. However, as the anterior margin of the *Hipponix* is curved, it is clear that some at least of the surface structures have been destroyed after deposition. In some places there appears to have been some secondary deposition.

The trails are tapering because the *Hipponix* has increased in diameter during its slow movement. The limpets are always at the anterior margin of the *Haliotis*, and so apparently always stay there. The rate of movement is therefore presumed to be the rate of growth of the shell margin.

The *Hipponix* shells, whether on older *Hipponix* or on *Haliotis* shells, are at the margin, and have their anterior margin to the anterior margin of the shell on which they rest. There must be some advantage for this to be the orientation preferred without exception. Supply of food and better oxygenation may be the reasons.

† "Bonnet limpet" Allan, J. (1950) Aust. Shells, p. 86.

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Plate 8.